ANT/SHE/02

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S RATON

ENDERBY
LAND
1976

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steep angles (> 70°) to NW or SE. (~300T). Some minor, fairly tight folds occur; lineation nearly horizontal or shallow dip to 30°T. Lineation in mylonized zones is steeply dipping to NW. Some open to mod. tight folds (~cm or 10cm scale) occur in the deformed zones

7628	3001	Acid qtz-feld gneiss with minor pyroxene
	3002	Banded pyx gneiss
	3003	Mafic pyx gneiss
	3004	? Enstatite pod
	3005	Augen gneiss from deformed zone

29/12/75 McLeod R13 / 2238

Seavers Ridge – NE part of ridge ②

Massive, poorly banded qtz-feldspar gneiss with few mafic bands. Some pegmatitic segregations. No mylonite

2

zones seen. ~~Strike~~ Dip is towards NW (315T) - generally strike is along ridge, dips 20 to 45°. A few minor folds seen. Exposures generally rather weathered - frost wedged material predominates except at crest of ridge.

3006 Acid qtz-feldspar gneiss - rather fine grained

McL R13/2238

30/12/75 SW Seavers Ridge ③

Mostly acid qtz-feld gneiss - massive, poorly banded but with some pyx-rich bands - often diffuse - and pods - almost agmatitic structure locally. Also larger ? enstatite or hypersthene (specimen) pods and lenses. A few rare bands contain garnet. Some qtz/feld pegmatitic segregations. General strike along ridge; dip towards NE mt King (330T) at 40-60° typically

Dolerite dykes up to 10 or 15 m wide (down to 1 cm) are quite abundant. Chilled margins and thin fingers are common and X-cutting margins are usual - dykes are undeformed, although one margin appears to have been affected by late brittle deformation

General strike of dykes is ~~towards~~ ~~Central [illegible]~~ approximately North. (0-20°T). Contacts are nearly vertical

3007-9	Banded, acid pyroxene gneiss
3010-12	Dolerite dykes
3013	? Deformed dyke margin
3014	? Mafic pyroxene gneiss
3015	Pyroxenite pod
3016	? Pseudotachylite
3017	? Leucocratic phase of dyke (occurs along margin of one dyke)

McLeod R13/2238

1/1/76 Seavers Ridge - NE ④

Largely acid qtz-feld gneiss with

minor pyroxene-rich bands and
? enstatite pods. Dip ~50°, strike
|| to ridge (dip 320°T)
lineation ~30° to 030.

3018 Qtz-feld gneiss

McLeod R13/2238

next nunatak to NE (unnamed) ⑤
Similar, but more banded
pyroxene gneiss - more mafic
bands. Some small, irregular
mylonite zones. Dip ~50°
to 320T

3019 Pyroxene gneiss

Mt King – Mt Douglas 1hr

4/1/25 Mt Douglas Simpson R12/0523 ①

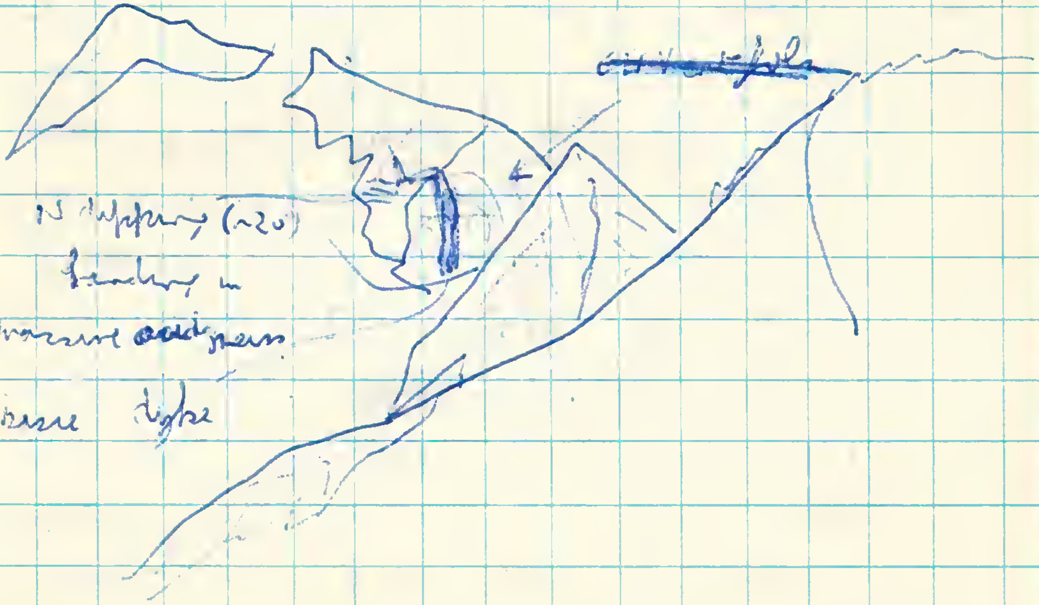
Just ESE of summit – acid qtz-feld biotite gneiss – red weathering. Fairly well foliated but mafic bands not common. Fresh specimens have a brownish, rather characteristic appearance. Mostly fine-med grained (≃1-2mm), but some pegmatitic bands – ~1cm grain size. Qtz in these has a cl. bluish tinge. A few thin, black bands of mylonite occur. Strike ~ ESE to E dip nearly vertical (70-90°)

Some of the more mafic rocks contain ?pyroxene + occasional garnet.

3020	Acid qtz-feld gneiss with ?pyx
3021	Acid ?biot (pyx gneiss) with bluish qtz + a little garnet
3022	Well foliated biot gneiss
3023	?Pyroxene gneiss, with minor garnet
3024	Mafic biot pyx gneiss
3025	Crush zone – mylonite

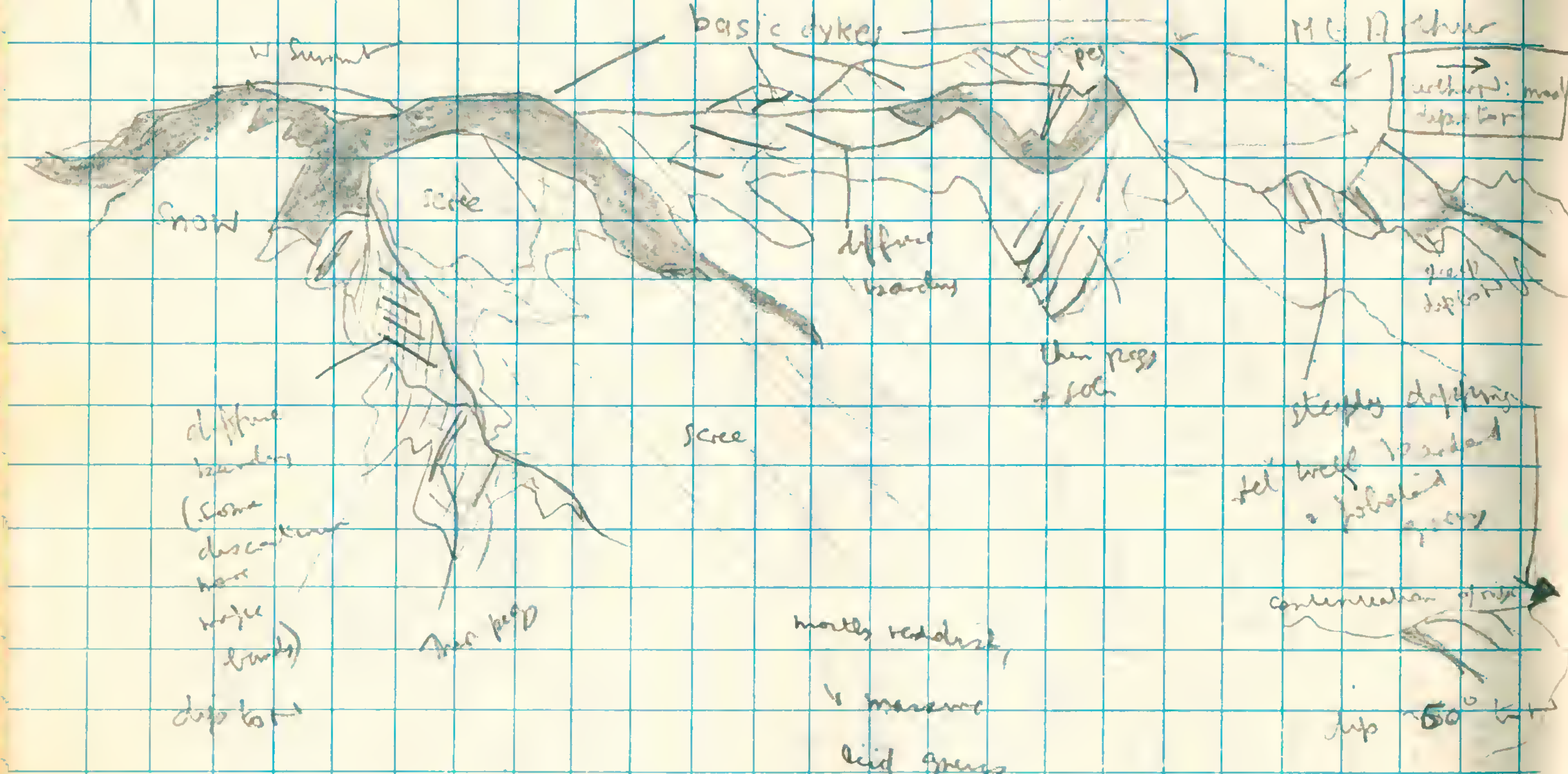
The rocks near the summit are migmatitic and include some garnet biotite gneisses

NE Mt Douglas
looking North


~~[illegible]~~
4
N dipping (~20°)
banding in
massive acid gneiss
basic dyke

The well foliated rocks are nearly vertically-dipping whereas general dip in the mountains to the north is N at low to moderate angles. Dips to the S (on Simpson Peak and Mount Henry) are generally S. The steeply dipping rocks on Mt Douglas may be the steep limb of a major structure or may represent a shear zone cutting across the older banding. The latter is supported by an apparent N dip of ~25° on the NW ridge of Mt Douglas, although the rocks there are v massive, granite gneiss and the banding is very indistinct. The ridge is cut by a large basic dyke. Pegmatitic segregations are common near the summit - blued qtz, pink feld and biotite, with garnet in some cases. A few similar pegs are cross-cutting and are themselves cut by the mylonite zones. The pegmatites are unfoliated.

WNW Mt Douglas looking W from summit


basic dyke
W Summit
Snow
Scree
diffuse banding
peg
thin pegs + fol.
MGN other
with [illegible]: mostly dips to [illegible]
gently dips to W
steeply dipping
felt well banded & foliated gneiss
continuation of ridge
dip 60° to W
diffuse banding (some discordant here maybe bands)
dips to W
fine pegs
Scree
mostly reddish, & massive lid gneiss

Ap of fold dips W at ≈ 45°.

Steep limb is [illegible] [illegible]

Most of the nearby peaks in the Scott Mountains are of reddish coloured gneiss, probably similar to Mt. Douglas. Much is very massive, with little banding obvious, but elsewhere the rocks are banded, sometimes with darker, greyish-red, more mafic bands. Basic dykes are quite abundant, particularly on George, Emperor, Henry, Douglas etc. They generally trend roughly WNW or NS.

On the peak in the Gromov ntks about 10 mls ESE of Mt Henry pink pegmatite (or granite) vein cut what appear to be basic dykes.

The basic dykes do not appear to have been affected by the shearing (but not actually seen close-up) – they are undeflected.

3026 garnet biotite gneiss
3027 Qtz feldspar pegmatite (conformable) in gneiss
3028 Mylonite, cutting pegmatite, cutting biotite gneiss

Charnockitic rocks in steep zone are not all deformed — migmatitic garnet gneisses, often coarse-grained (~5mm) with bluish qtz & greenish feldspar are apparently undeformed. They contain ?biotite & ?pyroxene. Pegmatites also contain garnet & biotite, often in quite large Xls (~ cms). Also ?magnetite or ?ilmenite (specimen)

3009 Garnet qtz feld gneiss (coarse-grained)

Regional structure appears to be major EW trending fold with near-vertical limbs, axial planes dip N. Some shearing & deformation in steep limbs (?development of biotite etc), but not always the case.

Rock types below the summit area include abundant pyroxene gneiss — mostly fairly acid ± garnet & biotite, although some mafic bands occur — biotite is conspicuous in these

The acid garnetiferous gneisses are generally v. massive

although close-up a banding is fairly obvious.
The rocks do not look particularly deformed & include abundant coarse-grained pegmatitic bands as well as coarser grained, conformable, true pegmatites with garnet ? pyroxene (spec) and biotite. Dips ~70° S to vertical.
Some bands are quite rich in garnet, particularly the more leucocratic ones – bluish qtz and brownish or greenish feldspars are conspicuous. Some bands are particularly rich in quartz and probably represent metamorphosed impure quartzite. Pyroxene (? hypersthene) and garnet also occur in these
Dykes are cross-cutting and appear to be fresh dolerites – chilled margins occur. They are not deformed or folded

3030,1	Dolerite dyke
3032	Chilled margin of dyke
3033	Pyroxene biotite gneiss
3034	Garnet biotite gneiss
3035	Garnet hypersthene quartzite
3036	Garnet biot gneiss (? qtz rich)

Mt Douglas – Molod 1hr 25mins

9/1/76 ~~[illegible]~~ Molodezhnaya

Tange R1/085

Amphibolite facies gneisses – fairly mafic hornblende gneiss very abundant, well banded and migmatitic – pinch and swell structures, boudinage, segregation pegmatites etc.

Banding is often rather diffuse – contorted &/or discontinuous. Thin acid veins are common and often tightly folded with axial planes parallel to the gneissic banding. Pegmatites contain large biotite xls, pink feldspar and quartz. Undeformed, cross-cutting pegmatites up to 2 metres wide occur. ~~Gr~~ Pink granitic, cross-cutting veins cut the gneisses and are cut by pegmatites.

Epidote-rich bands (± garnet) also occur. Biotite is common in the more acid bands, but hornblende is the most abundant mafic mineral

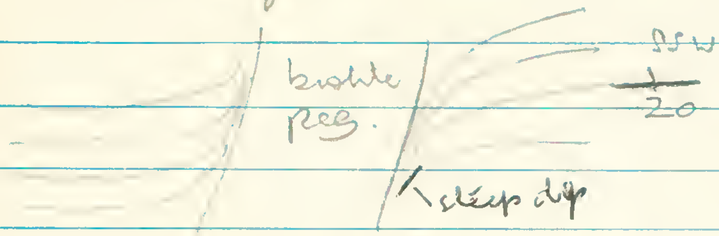
⇉

Dip on the W side of the station ①
(NW of observatory) is about 20°S on average, but is v. variable. Strike is typically EW to NW–SE. Folds are common

3037 Mafic hornblende gneiss
3038 Acid biotite gneiss
3039 Quartz-rich biotite gneiss
3040 Pink granite vein
3041 Biotite pegmatite
3042 Leucogneiss
3043 Hornblende/biotite gneiss
3044 Leucogneiss

The gneisses in the N part of the station are generally similar, although more and —, massive pink granite gneiss is quite abundant — These may represent deformed granite 'veins', they ~~are~~ weakly foliated, parallel to that in the surrounding rocks. Some bands rich in hornblende also occur, but do not form a significant proportion of the gneisses here.

A few calc-rich band — impure marble also occur. Pegmatites are abundant — one has intruded the ~~[illegible]~~ common limb of a shear fold, but is itself undeformed



PHOTO

The strike on the N coastal ②
slope is parallel to the ridge
~ESE (~105); dip varies from vertical
to shallow angle (mostly to the S)
Lineation dips gently E (~10°) (1 loc only)

3045,6	Acid biotite gneiss
3047	Sheared amphibolite
3048	Garnet gneiss (exact loc. unknown probably floater)

Garnet is fairly common in both acid and mafic rocks, but is not always very conspicuous. It also occurs in epidote-rich calc silicates. Certain bands are very rich in garnet.

3049 Acid garnet biotite gneiss
3050 Acid gneiss
3051 Garnet Biotite gneiss (float)
3052 Pink granite vein

To E of station, S of large inlet lake. rocks are predominantly acid biotite gneisses, or often massive, barely foliated "pink" granite gneiss. Some more mafic bands occur, including small discontinuous amphibolites, but these are not common. The gneisses are cut by slightly discordant acid veins, possibly of several generations and there are at least 2 generations of pegmatite — then SE trending, crosscutting and a later much thicker set Ks (1/2 – 7 metres, light coloured) trend NS or ~~E~~NNE – SSW. A number of pink, cross cutting granite veins occur and in several cases form the core of the NS pegmatites, suggesting either contemporaneity or a later intrusion. The contacts (the peg/granite) are fairly sharp, & inclusions of ~~the~~ peg in granite occur. Some composite dykes have pegmatite on only one side of granite. ③

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Some bands of massive augen gneiss also occurs.

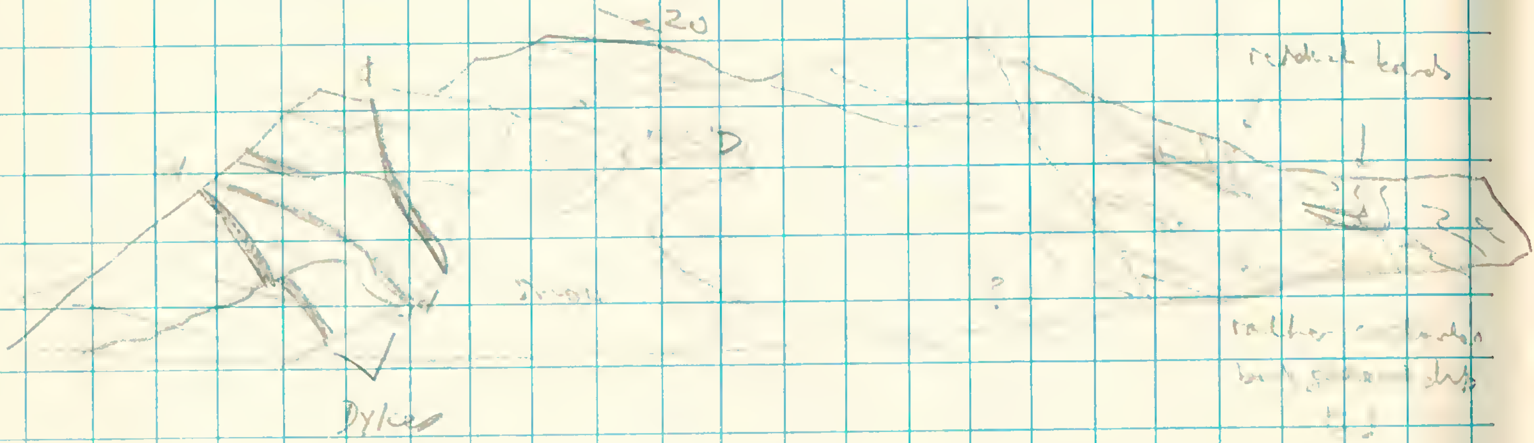
3053 Augen gneiss
3054 Amphibolite (foliated)

The augen gneiss is very massive contains large, but aligned biotite aggregates and probably represent deformed pegmatites. Some feldspar augen are rounded (up to 5 cm) The strike is ~105, but the dip varies from gentle to vertical.

S-shaped folds occur with the axial plane of one dipping S.

Small cross shear folds occur (pegmatites cut these)

Priestley Peak From W


20
D
1
1
2
Dykes
reddish bands
rather

12/1/76 Molodezhnaya — Mt Pardoe 1hr 20

Mt Pardoe — E summit — view

Priestley Peak

Well banded gneiss - dip generally S at ~ 15-20°

brownish banded gneiss with some creamy white & some reddish bands

Complexly folded — tight folds (near vertical) with aps ~ ‖ to foliation — particularly obvious in reddish bands

Structures have amplitudes ~ 100 metres

Cut by basic dykes — possibly 2 sets, but not definite — NNE sets would be earlier than NNW set.

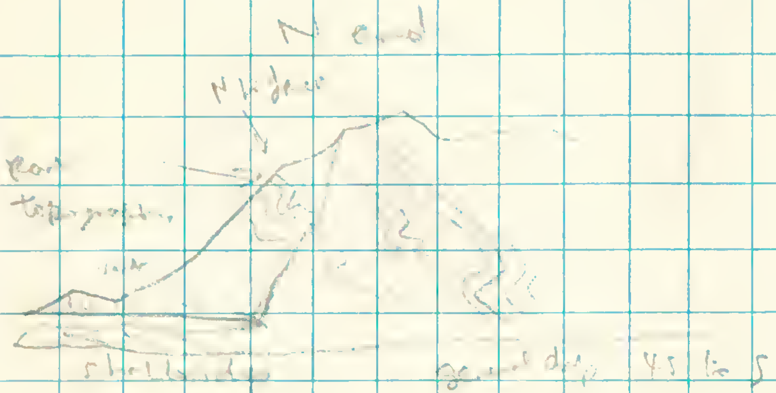
Mt Trail

Well banded gneiss, dip generally S at ~ 45°, but also folded

Aps dip at quite a large angle to the foliation trend

One large vertical structure at N end has axial plane dipping N, smaller structures

Mt Troll from W


N end
N ridge
poor topography
talus
shell beds
general dip 45 to S

The rocks in the area show complex folding

(100 foot amplitude) have axes dipping at a gentle angle (20° or less), horizontal, or S at gentle angle

Mt Pardoe – E summit ridge ①

Simpson R12/0544

Dips 220° at ~40°

Massive banded and charnockitic gneiss. Pyroxene (?) is present but is not very abundant, although some thin, relatively mafic bands do occur. Garnet is quite abundant, although in some bands it is only a minor constituent, in others it is a conspicuous mineral. Grain size varies from medium to fine grained, in some cases the rocks look very fine grained.

Some zones of retrogression occur in which mafics have been replaced by aggregates of biotite. Some garnet was noted in these, but was not conspicuous. The rocks in these zones are pale grey in colour. The trend is about E-W and there is a suggestion of a new foliation (steeply dipping)

3055	Acid ?pyroxene gneiss
3056	Acid ?pyroxene garnet gneiss
3057	Acid ?pyroxene garnet gneiss
3058	Grey biotite gneiss from retrogression zone
3059A, B	More mafic pyroxene/garnet rich gneiss

Saddle below Summit

Rocks are pyroxene/garnet gneisses, generally rather massive, but with 'better defined banding' than [illegible] – more mafic bands (although still subordinate to leucocratic & intermediate types)

Both gneisses are even grained; felsic types have sometimes got a typical 'granulite facies' texture – lenticular quartzes, etc.

Some sheared zones are present
very visible when cutting mafic
gneiss — ?phyllonites : breccia — the
angle with the gneissic banding
is fairly small. Most of the
gneisses are brown-weathering
but some light grey, weathering leucocratic
bands, with variable amounts of
garnet are present.
Cross cutting pink pegmatites and
basalt. occur but are thin & not
abundant. White quartz / feldspar
pegmatites with minor muscovite,
biotite & garnet also occur, but
field relations not seen.
Dip ~30° to 230T

Lineation ~15° to 270

3060,1 Pyroxene gneiss
3062,3 Mafic gneiss
3064 Leucocratic garnet gneiss
3065 Sheared mafic gneiss
3066 ?Quartzite (or deformed ~~[illegible]~~ [illegible] gneiss)
~~3067 Quartzite~~

NW face of Mt Dorsch is a well banded gneiss. Dark banded (? granitic bands) are roughly parallel to others, but possibly slightly discordant locally (cf Priestley Peak). They may well be originally cross-cutting basic dykes, since deformed. Possibly similar to the augen gneisses at Mt Codrington.

Some very fine grained, massive bands may be quartzite (or highly deformed banded gneiss)

18/1/76 Mt Parker – Mt Hurley [illegible]

Mt Cod R4/1021

Mt Hurley ①

Massive banded quartzo-feldspathic gneiss – fine-med grained generally, but with some coarse bands – plus deformed pegmatites; also some feldspar augen (but not abundant) Some pegmatites are cross-cutting, but with diffuse ~~boundary~~ contacts Also white quartzo-feldspathic gneiss with garnet (variable amounts) – locally garnet gneiss contains bands of fine-med grained quartzo-feldspathic gneiss described above

Banding in gneisses is very diffuse, although it is [illegible]

apparent on a larger scale
Dip is generally steep 40° or more (where measurable) and roughly to the SE

3067-9 Reddish or greyish quartz-feld gneiss

3070,1 White garnet gneiss

3072 Purplish ~~grey~~ rock with amphibole or chlorite.

3073 Strongly deformed red quartzo-feld gneiss with chlorite

Some strongly deformed gneiss have chlorite/or biotite - very strongly foliated. also very small veins cutting these rocks (1-2 mm across)
A few small pegmatitic zones visible

18/11/76 Mt Hurley – Mt Codrington 45 mins

Mt Cod/Proc Is R13/2272

Mt Codrington – N. Summit area ⑤

3074,5 Acid gneiss with ? pyroxene & biotite
3076,7 Mafic ? pyroxene gneiss
3078 deformed gneiss with ? chlorite
3079 Augen gneiss with ? chlorite
3080 garnet-rich band
3081 Garnet quartzite

Dip nearly vertical, strike ~N–S (~170°)

Main rock types are fairly leucocratic gneisses – banded ? pyroxene gneisses in part, although biotite is conspicuous in some. Some mafic bands are even grained & poorly foliated – they probably contain pyroxene. Some bands are relatively rich in garnet – mostly narrow leucocratic rocks, but a few mafic, pyroxene-rich bands are also v. rich in garnet. One band of garnet quartzite has noted [illegible] fences a pod of garnet/[illegible] rock with up to 5 cm garnet crystals

interbanded with qtz-feld-garnet gneiss here
The distn of garnet is very irregular.

The gneisses near the N [illegible] summit are well banded, although the banding is very contorted locally with numerous minor folds. Small pink pegmatites occur, but are not very large & have diffuse margins — some are cross-cutting, others parallel to the banding. The mineralogy is the same as the host rock (garnet, biotite & pyx)

Augen gneisses are particularly common, especially in the saddle area between the 2 main [illegible] peaks. They contain large augen of feldspar up to 10 cms across and mafic aggregates which appear to be chlorite. Some garnet occurs locally in the augen gneisses, but is not v abundant & small. The augen gneisses contain large & small lenses & bands of more mafic gneiss & cross-cutting relationships are preserved locally. They almost certainly represent deformed, originally cross-cutting pegmatites. They are mostly white or although [illegible] [illegible] pinkish

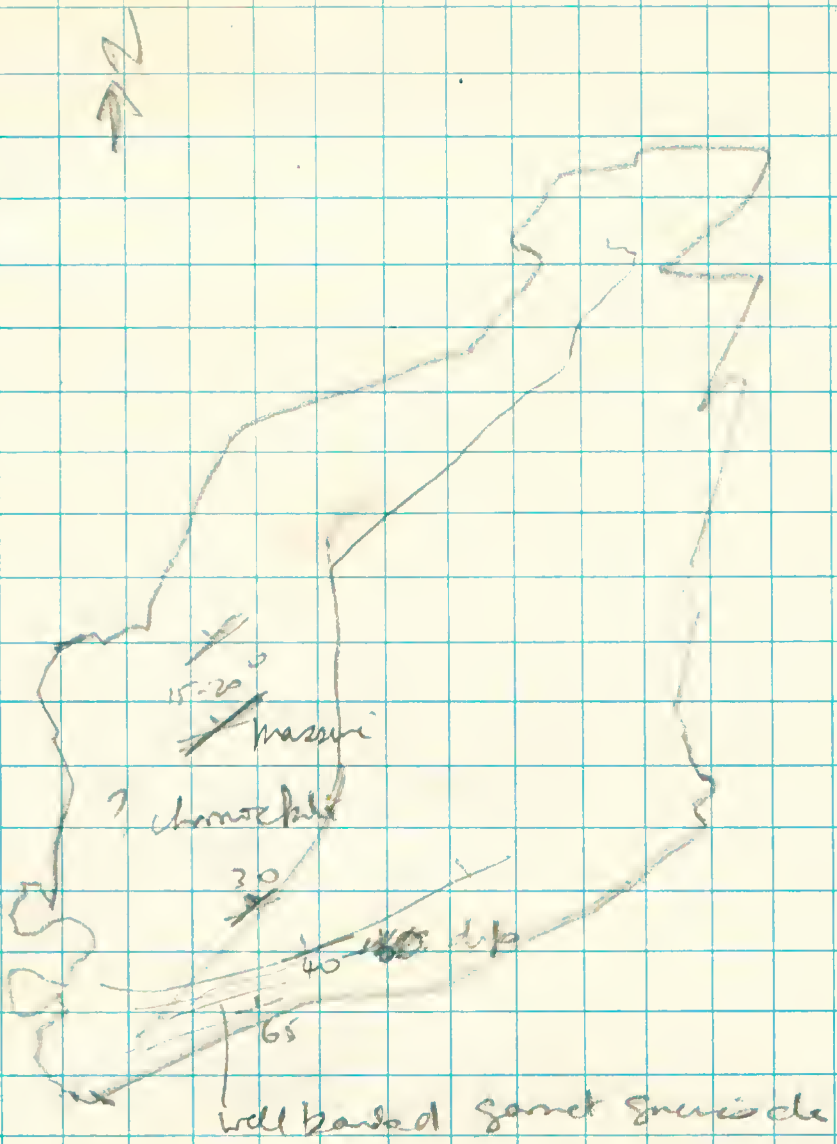
pale grey in colour). The amount of deformation is rather variable but the foliation is parallel to that in the other rocks. In the saddle region the amount of deformation & retrogression is probably greater than near the N Summit — banded gneisses with a strong foliation and containing biotite &/or chlorite occur there & few thin mylonite zones elsewhere.

The near-vertical foliation suggests the steep-limb of a major fold structure with associated retrogression similar to Mt Douglas, although the degree of retrogression is probably much greater at Codrington.

The dip appears to be much the same over most of the mountain and on the Fitzgerald ridge to the N.

The epidote veins & cross-cutting fractures also noted

The so-called garnet quartzite are small & discontinuous & may represent large quartz aggregates in the deformed pegmatite (augen gneisses). The local abundance of garnet is rather difficult to explain on this basis. They do however appear to be associated with the augen gneisses. The banded gneisses are grey to brown in colour & small isoclinal & flow folds are common in the undeformed parts. Some folds have an axial planar foliation. Some mafic band may possibly be metamorphosed basic dykes, but no evidence for this was seen.

N
15-20
massive
? charnockite
30
40
~~150~~ up
65
well banded garnet gneisside

23/1/26

Pt Codrington – Proclamation Is.

mt Cod/ProcIs R18/2725 (½ hour)

SW side of island ①

Mostly massive, poorly banded charnockite (?enderbite) / with a few thin pegmatitic veins & blurred quartz veins + pods of biotite/pyroxene.

A bit to the S are banded garnet gneisses etc – a few thin mafic bands, but mostly qtz-feld gneiss with variable amounts of garnet. Also a few ~~[illegible]~~ cpyx-rich bands.

Some zones of shearing occur (∥ to foliation or cross-cutting). These are rich in biotite.

No dykes seen, but a few boulders of dolerite occur.

Dips are steepest to the South.

The banded gneisses are more deformed than the charnockite & have a number of biotite-rich bands.

The contact between charnockite & garnet gneisses is ~~gradational~~ fairly sharp (a metre or two), the latter underlying the former

3082–5	Charnockite
3086–8	Garnet gneiss
3089	sheared gneiss
3090	biotite/pyroxene pod
3091	dolerite (float)
3092	banded biotite gneiss

Biotite/pyroxenite pods skarn occurs in the massive charnockite

Proclamation — King (1 hour)

McLeod R13/2238

24/1/75 Mt King — summit area ⑥

3093 Granite gneiss (even grained)
3094 Charnockitic gneiss
3095 massive gneiss with pink mineral (float)

Mostly rather massive acid gneiss (probably charnockitic) — reddish weathering – little pyroxene

Some pods contain bronzed ? enstatite + green mineral (Spec)

Spec 3095 is a green mineral rock with biotite, white feldspar (greenish tinge) and a pink mineral

Mt Card R5/1072

20/1/76 Mt Selwood 30 min

NE of main summit. ①

mostly massive, reddish-weathering charnockitic gneiss — mainly qtz/feld rich, minor pyroxene and garnet in some bands. A few mafic bands also occur, but are thin and discontinuous. A few are relatively rich in biotite.

Garnet forms large aggregates locally.

Leucocratic bands with conspicuous bluish quartz & pink feldspar are quite abundant.

~~[illegible]~~ - Light grey to white pegmatite cut the gneiss and contain rare biotite & garnet.

~~3095~~ Dip is very gentle to the NW or horizontal.

3096 Charnockitic gneiss with garnet

3097,8 Charnockitic acid gneiss

3099,3100 Coarse grained acid gneiss with garnet & ? pyroxene

Mt Cod/PNZ IJ R10 / 2546

Mt Ryder (NW corner) ①

Banded reddish and pyroxene gneiss with some garnet; more mafic bands than Selwood. Some pyroxenite bands and pods (some with biotite) Also some v. light coloured leucocratic garnet gneiss, with some garnets up to 1 cm across.

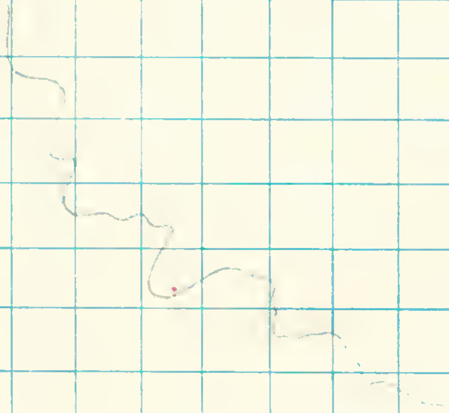
Dip varies from ~30 to nearly vertical. Folds occur in the cliffs - axial planes dip NW at steep angle (80° - 50°)

Dip of banding is ≈SE, or SE, generally at ~45°, but rather variable

3201,2 Leucocratic garnet gneiss
3203,4 Acid pyroxene gneiss
3205,6 More mafic pyroxene gneiss
3207A,B Clinopyroxenite? (float)
3208 From clinopyroxene band
3209 Mafic band (biotite/pyroxenite)

Cliffs on N side - further to East.
Dips ~ 20° to NW (nearly vertical)

looking NNE



Mt [illegible]
[illegible] SSW side

②

to SSW–NNE
Strike SW-NE — folds are common — axial plane dips at 70-80° to the WNW — plunge NNE at ~10°.
General dip to ESE at steep angle (average ~70°)
reddish-brown
Rocks include { banded pyroxene gneisses similar to Mt Ryder and white or pale grey garnet gneisses (generally leucocratic with garnet locally).
The reddish brown pyx gneisses contain some mafic pyx-rich bands. The garnet gneisses weather grey or white (less iron in feldspar?)

3210, 11 Leucocratic garnet gneiss (grey)
3212 Grey Leucogneiss
3213 Acid charnockite
3214 Pyroxene gneiss
3215 Leucogneiss with green mineral
3216 Garnet rich mafic band

The eastern end of Mt Penhm
is predominantly reddish, massive
and characteristic gneiss with
little banding visible — more
light, banded garnet gneiss toward
the western end and in the centre.
The strike at the S end of Mt
Keyser is along the ridge —
Well banded gneisses — light
garnet gneiss included — dip
steep (angle not visible.)

McLeod R11/2358

Mt Renouard — N side near Wind
Scour ④

Banded gneiss similar to Mt
Penhm — light coloured leucocratic
garnet gneiss — with some quartz
rich bands (garnet-quartz with
minor feldspar etc). In some garnet
gneisses the garnet is wholly or
partly replaced by a green mineral
The amount of garnet varies.

grading from [illegible]
with some rather thin (1–5 cms)
bands very rich; other bands
very sparse in garnet.
Interbanded are rustily weathering
charnockitic gneiss (mostly acid
but with some mafic bands)
Dips 80° to 10°NW

Folds occur with steeply dipping
axial planes, similar in style
to those on Mt Denham

3217 Acid charnockite
3218 Leuco-garnet gneiss
3219 Garnet quartz rock
3220 Garnet quartz rock with feldspar etc
3221 Garnet gneiss with green mineral

Total time 11, 35

–/1/'76 [illegible] [illegible]

MS Cod/P102 IsR/12/2336

[illegible] [illegible] [illegible] Escarpment. ①

Predominantly massive charnockitic gneiss – leucocratic qtz feld gneiss – a few mafic : pyroxene-rich bands and some pyroxenite bands (dark greenish-black) [specimen]

Most of the Mountain appears to be made of the same material.

Dip is at [illegible] angles (~15°) to ~~[illegible]~~ 300° (T)

3222	leuco-charnockite
3223	" "
3224	Mafic pyroxene gneiss
3225	Pyroxenite specimen)

Church Nunataks

mostly massive acid charnockite

A few mafic & also light ? garnetiferous bands. Steep dips to WNW

Mt Cod / Prov I S R13/2245
①

Mt Powell

mostly charnockite on E side of feature (main ridge) with some banded gneiss, particularly near NW end (saddle area)
The gneisses here dip steeply (~60°) to the WNW. Garnet gneiss (leucocratic) with quartz lenticles & a few v. garnet rich bands occur here. The rocks are white or pale grey in colour & are interbanded with normal charnockite, & a few mafic bands.

There are some mylonite bands with similar strike but probably a different dip. There is also much evidence of retrogression particularly in the more 'sheared' rocks with development of biotite etc. Garnet is replaced by biotite &/or chlorite and the rocks are generally better foliated (stretched out mafic, aligned mica etc.) The quartz aggregates

[illegible]

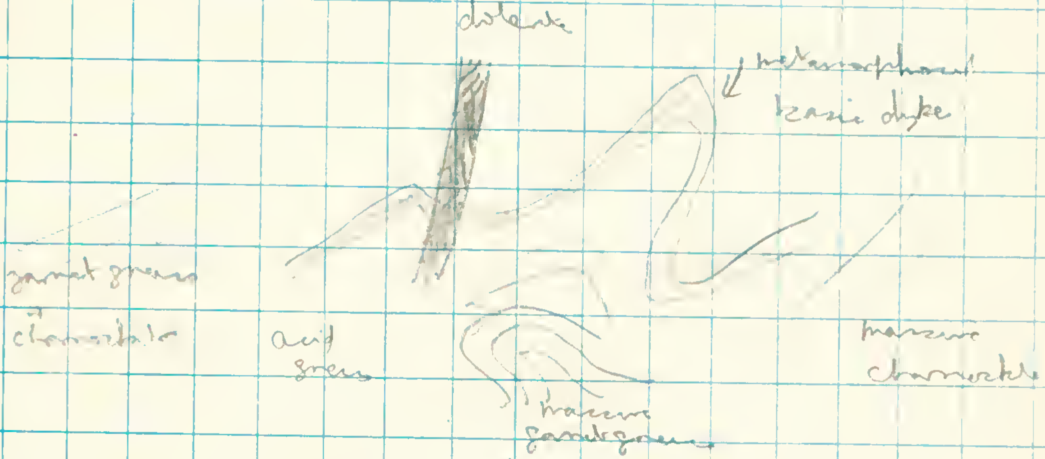
3226-8	Acid charnockite
3229-30	Garnet gneiss (part retrogressed)
3231-3	Retrogressed acid gneiss

Mt Trickler is very similar to main part with much acid charnockite along main cliffs + light bands and a few mafic bands. Dip: strike also similar.

MS Coll/Pre Is R13/2245

②

Banded gneisses – more variable
than previous localities
Rocks include interbands:
Acid charnockite (reddish massive)
Mafic pyroxene gneiss – relatively
abundant – almost as much as
acid charnockite
Both types of pyx gneiss
include pods & bands of pyroxenite.
Garnet gneiss – quite abundant here
White or grey, v. massive with some
bands rich in garnet, some
garnet poor. (distn? of garnet is
very irregular) One band in
particular is v. massive –
poorly banded with sparse garnets
Garnet xls vary from ~ 1mm – 1.5 cm
in size.
Associated with garnet gneiss
are bands of garnet ? ~~[illegible]~~ sillimanite
gneiss (or other Al silicate)


dolerite
metamorphosed basic dyke
garnet gneiss ± charnockite
acid gneiss
massive garnet gneiss
massive charnockite

Mt McGhee (S face)
[diagrammatic only]

only weakly banded.
Dip 70° to 300

3234–5 Garnet gneiss
3237–8 Garnet ? sill gneiss
3239 Mafic pyroxene gneiss
3240 Pyroxenite
3241 banded charnockite

int: Cod/ProcIS R 12/2340

Mt McGhee ③

Dip steep angle (~60–70°) to 300°
mostly charnockite (massive) on central
points; on W side more banded
rocks, including light garnet gneiss
On the S side, near the centre of
the cliffs are several undeformed
basic dykes, cutting the gneisses.
There are also metamorphosed and folded
dyke(s), cut by the younger set.
The folds are quite complex (photo)
and the older dykes quite tightly
folded. They do, however
slightly cross-cut the gneiss foliation

The [illegible]
is massive, light coloured leucocratic garnet gneiss, showing evidence of retrogression (garnet altering to a green mineral)
To the east is massive acid charnockite and just W of the fold is grey acid gneiss containing a green mineral
The older dyke contains pyroxene and biotite and is quite coarse grained.

3242, 3 — 2	fresh dolerite dykes
3244	metamorphosed basic dyke
3245.	Acid charnockite
3246	Grey and gneiss with green mineral (? biotite)
3247	Altered garnet gneiss

Total time — 2 hours

MS Coll R15/3282

Burch Peak. 4/1/76 ①

Mostly massive reddish acid charnockite with some banded gneisses Dips ~ 30° to WNW on the NW side. On other side of main ridge dips ~15° (Landing place); on SE ridge dips very gentle, with 2–5° to SE near end?)

At Landing place (~ central feature), mostly acid charnockite with some pale reddish 'leucocratic' qtz feld gneiss with "granulitic" texture (qtz lenticles, streaky texture)

3248 Acid charnockite
3249 "Granulitic" qtz feld gneiss
3250 Mafic band (similar to metadolerite at McGhee)
3251 Specimen of pyroxene from mafic band

There is some development of biotite in the more deformed rocks
Some mafic bands similar in appearance to the meta basic

[illegible]

Mafic [illegible] with green pyroxene are also present, but are thin and discontinuous.
Thin cross cutting qtz/feld pegmatite (~ 2-5 cms) also occur at this locality

mt Cord R15/3082

Mt Cordwell ②

Mostly massive acid hornblende and pyroxene gneiss fine with a few mafic bands. Some banded rocks to the W of the summit. Folding is conspicuous in the rocks with small near vertical foliation. The large scale steep structures also fold tighter near-vertical folds (a few metres amplitude). The rocks are locally rather fissile with conspicuous biotite development.

2257.3 Acid pyroxene gneiss

The general strike is 55W – [illegible]
Dips are ~ vertical to the W of the summit
~30° ESE at the summit, steepening to
~70-80 ESE. Near the E point the
dip is ~75° WNW

Mt Cad R15/3085

Mt Stadler ①

Massive charnockite at S end
overlies banded gneisses conformably
The banded rocks consist of garnet
gneisses (mainly leucocratic), mafic
gneiss, and pyroxene gneiss and several
bands of magnetite quartz ? pyroxene
rock (~25% magnetite). The
banded rocks dip at moderate
angle (~25°, but rather variable)
to ~~the~~ about 140° or 160° at the
landing place (about half way down the
ridge). Boudinage structures are
conspicuous in the banded rocks

3254,5 magnetite quartz ? pyroxene rock
3256,7 Garnet gneiss with bluish quartz,
pyroxene, ? biotite
3258 ~~Grey and pyroxene gneiss~~
metadolerite
Total time 1 hr 20

Nb Card R6 / 21-00

Sapphirine Nunatak 3/1/70 ①

SE end of nunatak — well banded gneisses underlying charnockitic gneisses. The dip is 010 at about 20° at this end; other end the dip is 330/20. The rocks consist of massive bluish quartzite with pyroxene and garnet rich bands. The quartzites are very massive – cream bands are almost pure quartz (with some garnet). Garnet-rich bands often have bluish quartz margins (1–3 cms). The more garnet-rich quartzite are generally very blue — some bands (generally with garnet) contain v dark blue sapphirine (generally (± ?pyroxene) 1 — 5 cms thick). Feldspar also occurs in the ga-sa rich quartzite. Also present are some ga-qtz folded gneisses (Similar to those seen at many other localities.) These latter are partly slightly

discordant — probably [illegible]
pegmatites. One post dyke
is metamorphosed and folded
but possibly slightly discordant.
The gneisses pass upwards into
& a qtz feld gneiss, (semi qts) & mafic pyroxene
gneisses → a quite characteristic
gneiss. The mafic dyke is dis-
continuous & a similar band occurs
in the cliffs on the NE part
of the feature. Some small
shear zones occur, as do minor
isoclinal folds and larger, irregular
tight- to isoclinal folds.
The dip is otherwise fairly constant.
A large dolerite dyke cuts the
banded gneisses on the S cliffs
of the nunatak.
A lineation dips at ~15-20° to
the NE or NNE.

3259 mafic [illegible] [illegible]
3260,1 mafic pyroxene gneiss
3262,3 Acid garnet qtz feld gneiss
3264 Acid charnockite
3265 garnet ? pyx qtz feld gneiss
(? with sillimanite)
3266 Garnet qtz feld gneiss with
? sillimanite

McLeod R5/2090

Mt Jones ⑤

near Nerd - well banded gneisses dip ~30° to SE, but major folding occurs

3267,8 Garnet quartz feldspar gneiss
3269 Mafic garnet pyroxene gneiss
3270 garnet quartz rock

The rocks are well banded, light coloured gneisses, rather similar to sapphirine rocks, but no sapphirine noted. The garnet & gneisses have bands very rich in ~~feldspar~~ garnet & contain qtz & feldspar and the feldspar white. Rarely a few thin bands of [illegible] quartzite seen. Mafic bands rich in pyroxene and with some garnet are also common — these are rusty weathering.

Cross-cutting basic dykes occur on the western cliffs and black mafic bands, discontinuous, but possibly locally discordant may represent an older generation of dyke.

Much of ~~the~~ Pythagoras Peak is massive charnockite, although some light banded gneisses also occur

Time 16 30

7628 3271 - Garnet corona structure from Dogger Ntk

Mt Card R15/3085

Mt Stadler ②

E cliffs towards N end — massive white garnet gneiss band, red and charnockitic gneiss with thin black mafic bands — some have abundant magnetite. The charnockitic gneiss contains some garnet here.

3072 Charnockite with rare garnet

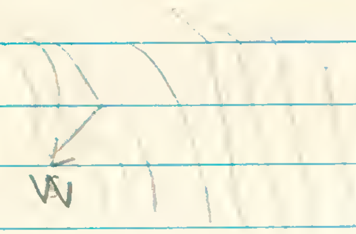
Dips are rather variable, at low angle (15-30°) to the S or SSE (or between the two extremes)

Mt Card R15/3085

Mt Jewell ③

Cliffs on eastern side, near northern end: Dip vertical, strike N-S. In saddle area, just to S the dip becomes [illegible]). The fold axial planes dip roughly W at ~ 45°. Fold style is thus —

looking N.



Rocks are mostly acid charnockite with some mafic bands, including coarse-grained pegmatitic segregations with pyroxene and garnet and then cross-cutting acid pegmatite — ~ 1-5 cm thick with bleached quartz and pink feldspar.

One large mafic band ~ 2 m thick is cross-cutting but folded and metamorphosed. In the saddle a fine grained dyke — fresh and undeformed — about 3-4 m thick

3275	Mafic pyroxene gneiss
3276	Metamorphosed dyke
3277	Fresh basic dyke
3278	Garnet pegmatite
3279	Mafic garnet pyroxene gneiss (coarse-grained)

MV Col K15/3085

SE side — middle of ridge pointing SW ④

Banded gneisses — mostly garnet gneisses — massive, grey with v. poor foliation and fairly even dist^n of garnet crystals. Some bands and lenses are coarser grained and strongly lineated, foliated (qtz + feldspar rich) — these may be deformed pegmatitic bands. Also present are acid charnockitic bands — mostly weathering out and some mafic pyx-rich bands. Some thin (~1m) bands of garnet/qtz/magnetite rock

[illegible]

The dip is about 45° to 305 (°T)
A few black mafic bands
probably represent folded and
metamorphosed dykes

3280	Acid pyroxene gneiss
3281	Mafic pyroxene gneiss
3282-4	Garnet qtz feld gneiss
3285-6	Garnet/qtz/magnetite rock
3287	Floater – micaceous gneiss with green mineral

Time 1h 15

King – Mawson 2h 25

Birds

Snow Petrels

- Mt Douglas
- Mt Pardoe
- Mt Selwood (~5 birds)
- Mt Codrington
- Pythagoras Peak
- Burch Peaks

Skuas

- Molodezhnaya
- Mt Pardoe
- Mt Hurley
- Proclamation Is
- Mt King (base camp)
- Mt Codrington

Storm Petrels

- Mt Hurley
- Mt Codrington

XRD Samples

7628 3290 Rayner ~~[illegible]~~ peak - pink garnet

3291 green & brown minerals - Rayner Peak

3292

3350-372 Quartzites from Sapphirine Nunatak.

RUMS

Stratum	
1	3001-22
2	3023-47
3	3048-69 (inc 59A, B)
4	3070-95
5	3096-100; 3201-3223
6	3224-3255
7	3256-3287

Offe

3104-3136 (inc 115A, B)

3137-3163 (inc 146, 146A, 146B

3164-3195

3196-9, 3301-2 (inc 96A+B, 97A+B, Fyfe (Widdows, Rippon)

3177-180; 3303-3317; 1st 4 sples

20 11 am HN 703

WYTOY YAMHO YAPHO
MAIL [illegible] FROM
JEAN YBOCKE JAN
10 YASLE EARLY
SUMMER WYW XD

a garnet gneiss
pyroxene gneiss

dolerite

1976

1 january - arrived in Russia - 13 jan

31 28 JUNE 1957
6 FEBRUARY 1944

NOVGOROD - 64 km

24 december 1974

16 march 1976

26 april 1976

by ship 3 m

CANBERRA

150 pu

300
180

$400
$1600